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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
09 866,600	05 30 2001	Kazunori Iwamoto	862.C2246	4961

5514 7590 01 30 2003

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EXAMINER

NGUYEN, HUNG

ART UNIT PAPER NUMBER

2851

DATE MAILED: 01/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,600

Applicant(s)

IWAMOTO ET AL.

Examiner

Hung Henry V Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 6) ☐ Other:

DETAILED ACTION

Drawings

1. Figures 5-6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 18-19, the recitation of "wherein a shape of said mirror ... is measured based on pieces of Y-axis direction...said plurality of optical unit" is vague because it is narrative in form. It is not clearly understood, what unit/device/or means as recited (in claims 1 or 5) can perform this specified function.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1-26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Nishida et al (JP-405217837A).

With respect to claims 1-26, Nishida discloses an X-Y stage comprising all basic features of the instant claims including: a stage movable along X and Y axes, a laser head (6) for generating a laser beam; an optical unit (9) mounted on the stage and splits the laser beams into reference and measurement beams; a mirror (11a,b) arranged outside the stage and reflects the measure beam; and detector (10) for detecting the reference beam and measuring beams and making the reference beams and measuring beams interfere with each other (see fig.1).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art of Figs. 5 and 6 in view of Nishida et al (JP-405217837A) or Kreuzer (U.S.Pat. 5,757,160).

With respect to claims 1-26, AAPA of figs.5-6 recognizes that at the time the instant application was filed there existed a stage apparatus which comprised substantially all of the basic features of the instant claims such as: a stage (12) movable along X and Y axes, a laser head (8) for generating a laser beam; an optical unit (9) for splitting the laser beams into reference and measurement beams; a mirror (11a,b) for reflecting the measurement beams and

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returning these beams to the optical unit/interferometer; and detector (10a-b) for detecting the reference beam and measuring beams and causing the reference beams and measuring beams interfere with each other. The only difference between AAPA of figs.5-6 and the instant claimed invention is: while the AAPA of figures 5, 6 disclosed that the mirrors (11) are arranged on the stage and the optical unit are mounted outside the stage, in the instant claims, the mirrors are arranged outside the stage and the optical unit is mounted on the stage. The purpose of doing so is to reduce the size of the stage apparatus. However, this structure was well known per se. For example, Nishida teaches the mirror (11) is arranged outside the stage and the optical unit (9) is mounted on the stage for reducing the size and weigh of the stage apparatus (see abstract). Also, Kreuzer teaches the mirror (30) is arranged outside of the stage (10), and optical unit (14,16) is mounted on the stage (see fig.1). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of AAPA of Figs 5-6 and Nishida/or Kreuzer for at least the purpose of reducing the physical size and weight of the stage apparatus. Furthermore, it would have been obvious to a skilled artisan to rearrangement of parts, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

8. As to claims 27-30, AAPA of figs.5-6 as modified by Nishida/or Kreuzer discloses substantially all of the limitations of the instant claims as discussed except for the stage apparatus/exposure apparatus being communicated via a computer network such as a LAN or Internet. However, this in itself does not provide any inventive steps. For example, Umatate et al discloses a plural exposure apparatus and a host management system (H-COM), a network interface, a computer and the information relating to each of the exposure apparatuses can be

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communicated by a computer network (see fig. 1 of Umatate et al). It would have been obvious to a skilled artisan to utilize a computer network as taught by Umatate for known stage device of AAPA figs. 5-6 as modified Nishida/or Kreuzer for remotely and automatically managing, analyzing, troubleshooting and maintenance stage device and the exposure apparatus.

Prior Art Made of Record


9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Novak et al (U.S.Pat. 6,363,809), Zaroni (U.S.Pat. 5,724,136) and Lee (U.S.Pat. 6,130,490) discloses stage device, each of which comprises substantially all elements as recited in the claims of the instant invention.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 703-305-6462. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 703-308-2847.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4900.


Hung Henry V Nguyen
Examiner
Art Unit 2851

hvn
January 24, 2003